Ventless Hood System

MODEL FH-28

Installation & Operation Manual

Serial Numbers 123046 and higher

Warranty Information

LIMITED ONE YEAR WARRANTY

BKI (The "Company") warrants to the original purchaser that at time of shipment from the Company factory, this equipment will be free from defect in materials and workmanship. Written notice of a claim under this warranty must be received by the Company within ONE YEAR from the date of installation, but no longer than ONE YEAR AND THREE MONTHS from date of shipment from the factory. Defective conditions caused by abnormal use or misuse, lack of or improper maintenance, damage by third parties, alterations by unauthorized personnel, acts of God, failure to follow installation and/or operating instructions, or any other events beyond the reasonable control of the Company will NOT be covered under this warranty. The obligation of the Company under this warranty shall be limited to repairing or replacing (at the option of the Company) any part, with the exception of lamps, fuses, and glass (which are not covered under warranty), which is found defective in the reasonable opinion of the Company. Any part found defective by the Company will be repaired or replaced without charge F.O.B. factory, Simpsonville, South Carolina or F.O.B. authorized BKI Distributor. The Company and/or its authorized representatives will assume the normal replacement labor expense for the defective part for the period of the warranty as stated above, excluding travel and/or other expenses incidental to the replacement of the defective part, where replacement work is performed during standard business hours and not subject to overtime, holiday rates, and/or any additional fees. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR LOSS OF USE, LOSS OF REVENUE OR LOSS OF PRODUCT OR PROFIT OR FOR INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, FOOD SPOILAGE OR PRODUCT LOSS. WARRANTY DOES NOT COVER GLASS BREAKAGE. THE ABOVE WARRANTY IS EXCLUSIVE AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

REPLACEMENT PARTS

Any appliance replacement part, with the exception of lamps, fuses, and glass, which proves to be defective in material or workmanship within ninety (90) days of installation will be replaced without charge F.O.B. Factory, Simpsonville, SC or F.O.B. authorized BKI Distributor. The user shall have the responsibility and expense of removing and returning the defective part to the Company as well as the cost of reinstalling the replacement or repaired part.

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Introduction

Congratulations! You have chosen **BKI**'s Ventless Hood system, a state-of-the-art unit that filters grease laden air and returns it to the room.

The **BKI** name and trademark on this unit assures you of the finest in design and engineering -- that it has been built with care and dedication -- using the best materials available. Attention to the operating instructions regarding proper operation, installation and maintenance will result in long lasting dependability to insure the highest profitable return on your investment.

NOTICE PLEASE READ THIS ENTIRE MANUAL BEFORE OPERATING THE UNIT. If you have any questions, please contact your **BKI** Distributor. If they do not answer your questions, contact the **BKI** Technical Service Department, toll free: 1-800-927-6887. Outside the U.S., call 1-864-963-3471.

Safety Precautions

Always follow recommended safety precautions listed in this manual. Below is the safety alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury or property damage.

Safety Signs and Messages

The following Safety signs and messages are placed in this manual to provide instructions and identify specific areas where potential hazards exist and special precautions should be taken. Know and understand the meaning of these instructions, signs, and messages. Damage to the equipment, death or serious injury to you or other persons may result if these messages are not followed.

⚠DANGER This message indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

⚠WARNING This message indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

⚠CAUTION This message indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE This message is used when special information, instructions or identification are required relating to procedures, equipment, tools, capacities and other special data.

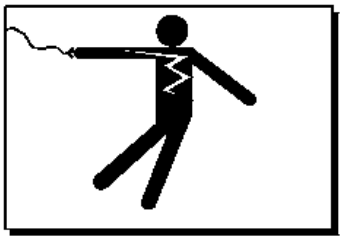
Specific Precautions

⚠DANGER Carbon monoxide poisoning will result from using this hood with any appliance that utilizes combustible fuel. Use only electrical appliances with this hood.

⚠WARNING In the event of an appliance fire, serious injury, property damage or death could occur if the appliance is not properly secured to the hood. A restraining device has been provided to assure that the appliance remains in the proper position under the hood during normal operation. **DO NOT REMOVE THE RESTRAINING DEVICE!**

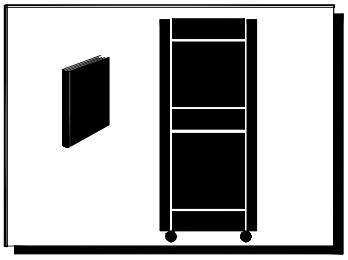
NOTICE Hood failure could result if the hood is operated without the grease baffle and particle/odor filter installed. This is a special filter designed for this application only; other filters will not work properly. Use only a **BKI** particle/odor filter.

Safe Work Practices



Beware of High Voltage

This equipment uses high voltage. Serious injury can occur if you or any untrained or unauthorized person installs, services, or repairs this equipment. Always Use an Authorized Service agent to Service Your Equipment



Keep this manual with the Equipment

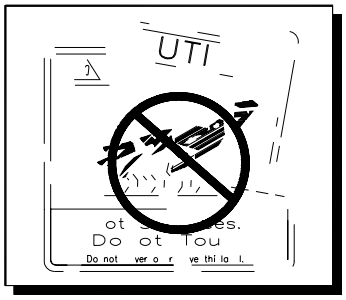
This manual is an important part of your equipment. Always keep it near for easy access. If you need to replace this manual, contact:

BKI
Technical Services Department
P.O. Box 80400
Simpsonville, S.C. 29680-0400
Or call toll free: 1-800-927-6887
Outside the U.S., call 864-963-3471

Protect Children

Keep children away from this equipment. Children may not understand that this equipment is dangerous for them and others.

NEVER allow children to play near or operate your equipment.

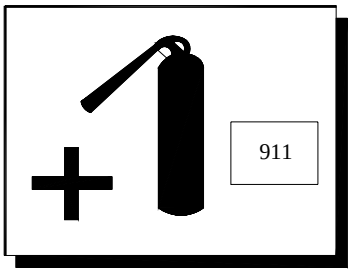


Keep Safety Labels Clean and in Good Condition

Do not remove or cover any safety labels on your equipment. Keep all safety labels clean and in good condition. Replace any damaged or missing safety labels.

If you need new safety labels, contact:

BKI
Technical Services Department
P.O. Box 80400
Simpsonville, S.C. 29680-0400
Or call toll free: 1-800-927-6887
Outside the U.S., call 864-963-3471

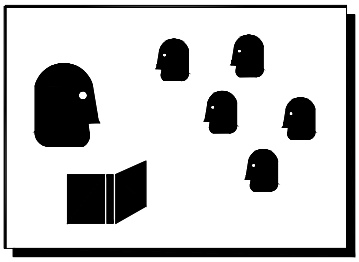


Prepare for Emergencies

Be prepared for fires, injuries, or other emergencies.

Keep a first aid kit and a fire extinguisher near the equipment. You must use a 40-pound Type BC fire extinguisher and keep it within 25 feet of your equipment.

Keep emergency numbers for doctors, ambulance services, hospitals, and the fire departments near your telephone.



Know your responsibility as an Employer

- Make certain your employees know how to operate the equipment.
- Make certain your employees are aware of the safety precautions on the equipment and in this manual.
- Make certain that you have thoroughly trained your employees about operating the equipment safely.
- Make certain the equipment is in proper working condition. If you make unauthorized modifications to the equipment, you will reduce the safety and function of the equipment.

UL Information

⚠WARNING Failure to adhere to building, fire and electrical codes during installation of this unit could result in death, serious injury or property damage. The authority having jurisdiction, such as the local building inspector or fire marshal, should be consulted prior to installation to insure compliance with applicable codes.

⚠WARNING In the event of an appliance fire, serious injury, property damage or death could occur if the appliance is powered from a source other than the hood. The cooking appliance used under this hood MUST receive its input power from the hood. Electricity is automatically removed from the hood and the appliance when the Fire Extinguishing System is activated.

⚠WARNING In the event of an appliance fire, serious injury, property damage or death could occur if the remote pull station is not properly installed. The remote pull is to be clearly marked, located in a path of exit or egress and must comply with applicable codes.

NOTICE It is the responsibility of the owner to verify that the cooking appliance is eligible for use with this hood.

NOTICE This filter hood is an underwriters laboratories, inc. classified ductless hood for use with UL listed type commercial cooking appliance only (griddle or fryer).

Fusible Links

- Fusible links to be UL Listed, 165° F., load rating 3-45 lbs.

Pressure/Open Fryers

- Pressure fryers acceptable for use with this hood shall be constructed such that when the lid is released or unlatched it shall spring to the fully open position within four seconds. Fully open is defined as vertical, upright position (80° or more) from the closed position. The lid must open without operator or electrical assistance, toward the back of the hood.
- The lid of the pressure fryer, when it is open, shall not block fire-extinguishing nozzle from the vat.
- The lid of a pressure fryer should be checked for proper operation at least once a month. If the lid fails to fully open when unlatched or released, it should be repaired immediately by factory authorized service personnel. Do not operate a fryer with a defective lid opening mechanism.
- Fryers with lids (other than pressure fryers) shall be operated only with the lid removed. Lids may be used for covering the vat when power to the cooking appliance and hood has been turned off.

Sandwich Grills

- Sandwich grills acceptable for use with this hood shall be used such that when the lid is either fully open, released, or unlatched it shall spring to the fully open position. Fully open is defined as vertical, upright position (80° or more) from the closed position. The lid must open toward the back of the hood. The lid of a sandwich grill, when open shall not block fire extinguishing nozzles from the cooking surface.

Fryers Specifications

Volts	208/240
Phase	1 or 3
Maximum Amps	60
Maximum Input	22 KW (3ph) 14.4 KW (1ph)
Frequency	60 Hz
Maximum normal frying temperature	375° F. (191° C.)
Maximum shortening capacity	110 lbs. (50kg.)
Maximum cooking surface area	396 sq. in. (2555 sq. cm.)
USE ELECTRIC FRYERS AND SINGLE VAT FRYERS ONLY	

Griddles Specifications

Volts	208/240
Phase	1 or 3
Maximum Amps	38.5
Maximum Input	8 KW
Frequency	60 Hz
Maximum griddle surface area	450 sq. in. (2903 sq. cm.)
Maximum cooking surface temperature	450° F. (232° C.)
USE ELECTRIC GRIDDLES ONLY	

Operation

Principle of Operation

A blower inside the ventless hood draws cooking vapors through a grease baffle. Inside the baffle, the air reverses direction two times capturing particles of moisture, grease, and dirt. Material collecting on the baffle drains into the condensation trough located below the baffle. After air passes through the baffle, it then enters a specially designed, high efficiency particle/odor filter where any particles that may have passed through the baffle are trapped. A charcoal filter contained in this particle/odor filter helps to remove cooking odors from the air. The filtered air then passes through the blower and is returned to the room.

Preparation

The following conditions must be met for the Filter Hood to function:

- The particle/odor filter must be installed.
- The grease baffle must be installed.
- The filter door must be shut.
- The fire extinguisher system must be active.
- Power must be supplied to the hood.
- The fire damper must be open with link installed (see page 12).

Start-Up

To start the Filter Hood, press and hold the “START” button for three seconds. This is to insure that the unit has achieved sufficient vacuum for the sensor to determine that the hood is in operation.

Shut-Down

NOTICE Power to the appliance is turned off, when the hood is turned off.

NOTICE For proper operation, always turn off appliance and allow time for it to cool before turning off the filter hood. This will insure proper capture of grease vapors.

To stop the Filter Hood, press the “STOP” button.

When to Replace the Filter

The particle/odor filter should be replaced when the CHANGE FILTER light illuminates. In low to medium volume applications, the filter may need replacement prior to the CHANGE FILTER light illuminating. If you smell a strong odor coming from the face of the filter and the CHANGE FILTER light is not illuminated, the filter needs to be replaced. If necessary, refer to the procedure in this manual for replacing the filter (see page 21).

Cleaning

Refer to scheduled maintenance in this manual (see page 20).

Installation

Unpacking and Handling

Inspection for Shipping Damage

YOU are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage to cartons or pallets is found, or if a shortage is found, note this on the bill of lading (all copies) prior to signing and receiving.

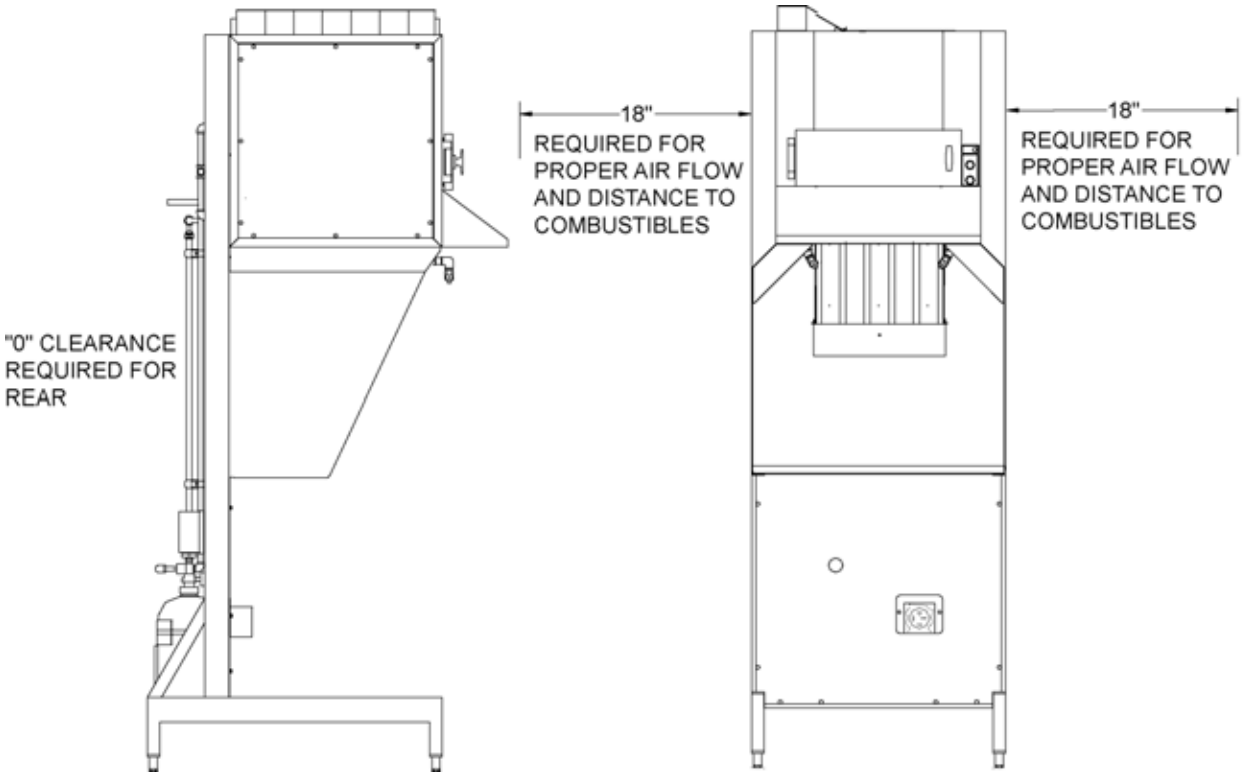
If damage is found when the equipment is opened, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Packaging material **MUST** be retained to show the inspector from the shipping line.

Location and Clearance

Place the Filter Hood in a location with clearance as shown in the figure and data below. These distances provide for proper clearance to combustible surfaces, access for maintenance, and proper air flow from hood exit vent.

MINIMUM CLEARANCE HOOD TO COMBUSTIBLE
18 in. (FH-28) SIDES, 0 in. BACK, 0 in. TOP, 0 in. BOTTOM
NON-COMBUSTABLE REAR WALL REQUIRED FOR FH-28 WALL MOUNT

APPLIANCE CLEARANCE
Vat to sides of hood: 6.25 in. (FH-28)
Griddle to sides of hood: 0 in., Sandwich grills to sides of hood: 6 in.
Cooking surface must be at least 3.5 inches behind the front edge of the hood.
Appliance cabinet top or cooking surface to be level with bottom of hood sides ± 3 in.



Leveling

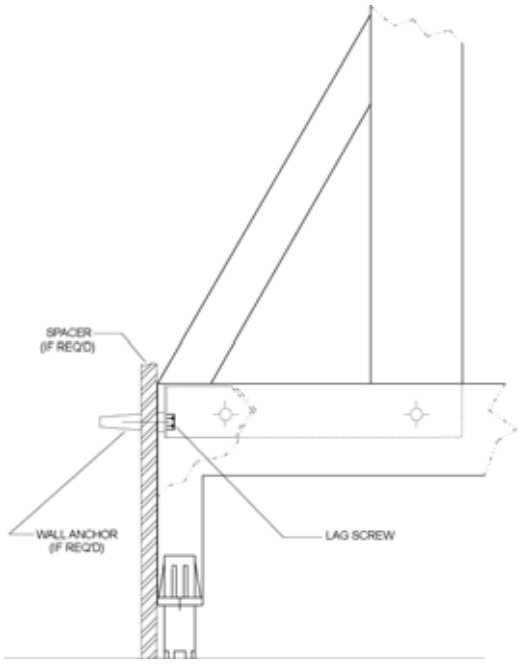
1. Adjust the four feet provided on the bottom of the unit so there is a minimum of 6” clearance below the frame side members (NSF/UL REQUIREMENTS).

2. Check for level from side to side and front to back using a 4’ level placed appropriately on the frame.

Securing

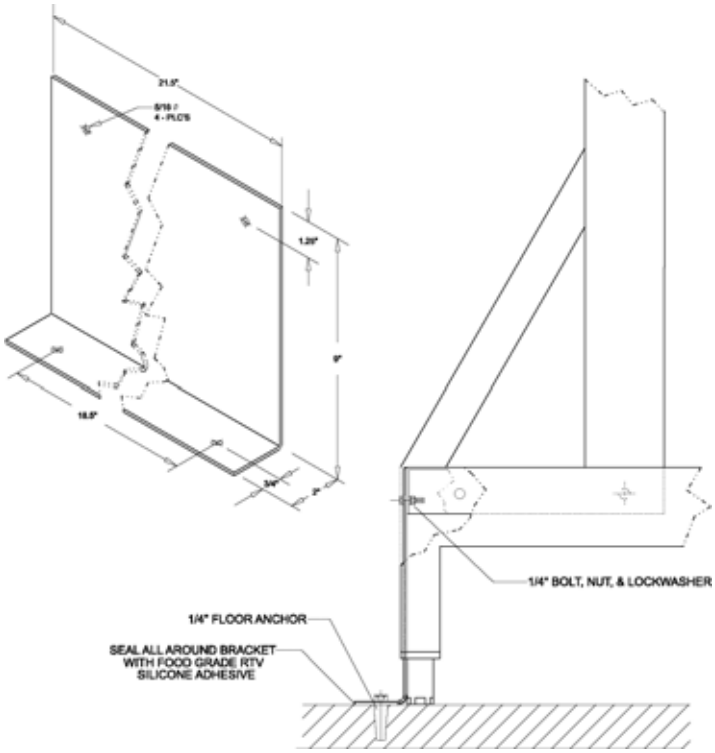
Wall Mount

After the hood has been located and leveled, secure to building by utilizing the .437 diameter holes provided in the rear of the fire extinguisher cylinder shelf (Refer to figure below). Using 1/4” lag screw(s), spacer(s) (if required), and anchor(s) (if required) secure the hood to a wall to prevent movement. The outside holes are spaced at 16 inches in the event wall studs can position the unit.



Brace Mount

If the unit is being mounted far away from a wall, a brace (angle) secured to the floor may be bolted to the shelf. This brace must be sufficient to prevent movement of the hood. Seal brace connection to floor using a food grade RTV. This will prevent grease or food particles from getting beneath the brace.

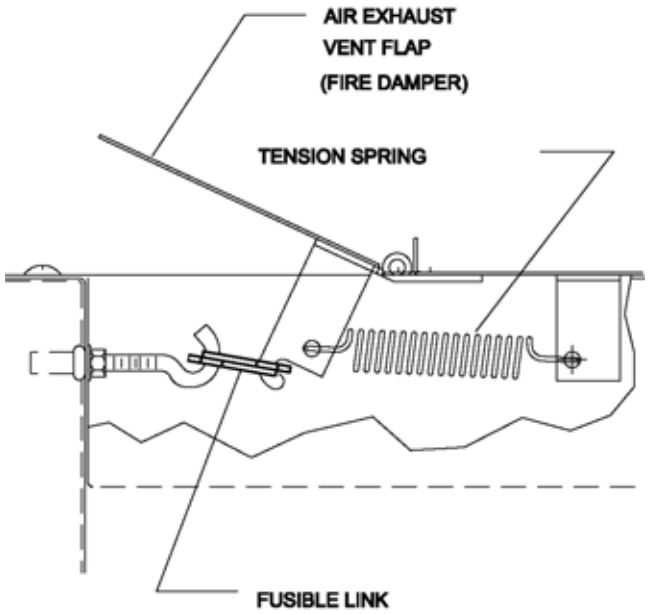


Assembly and Mounting

Fire Damper

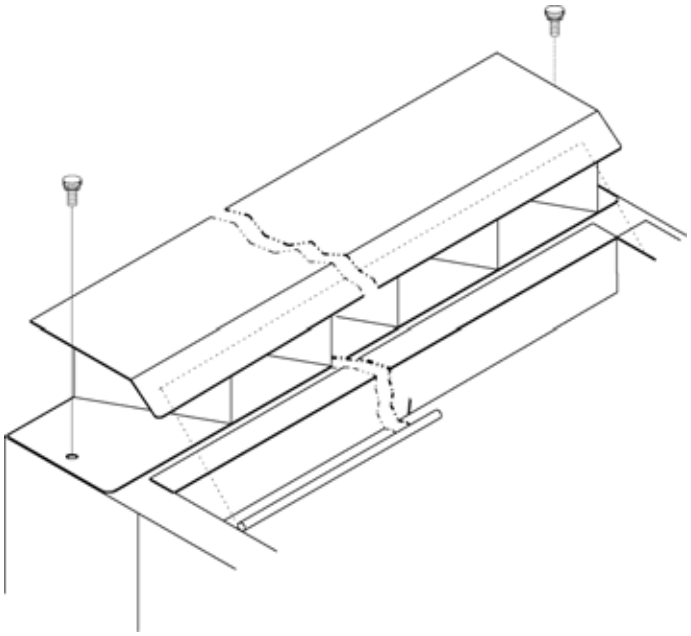
A UL Listed 165° F fusible link must be installed in the damper assembly located at the top of the unit. Install as follows:

1. Lift the damper.
2. Place the link on the damper hook.
3. Lower the damper while placing the link onto the stationary hook.



Air Deflector

Mount air deflector, as shown in the figure below, using two knurled screws (provided).



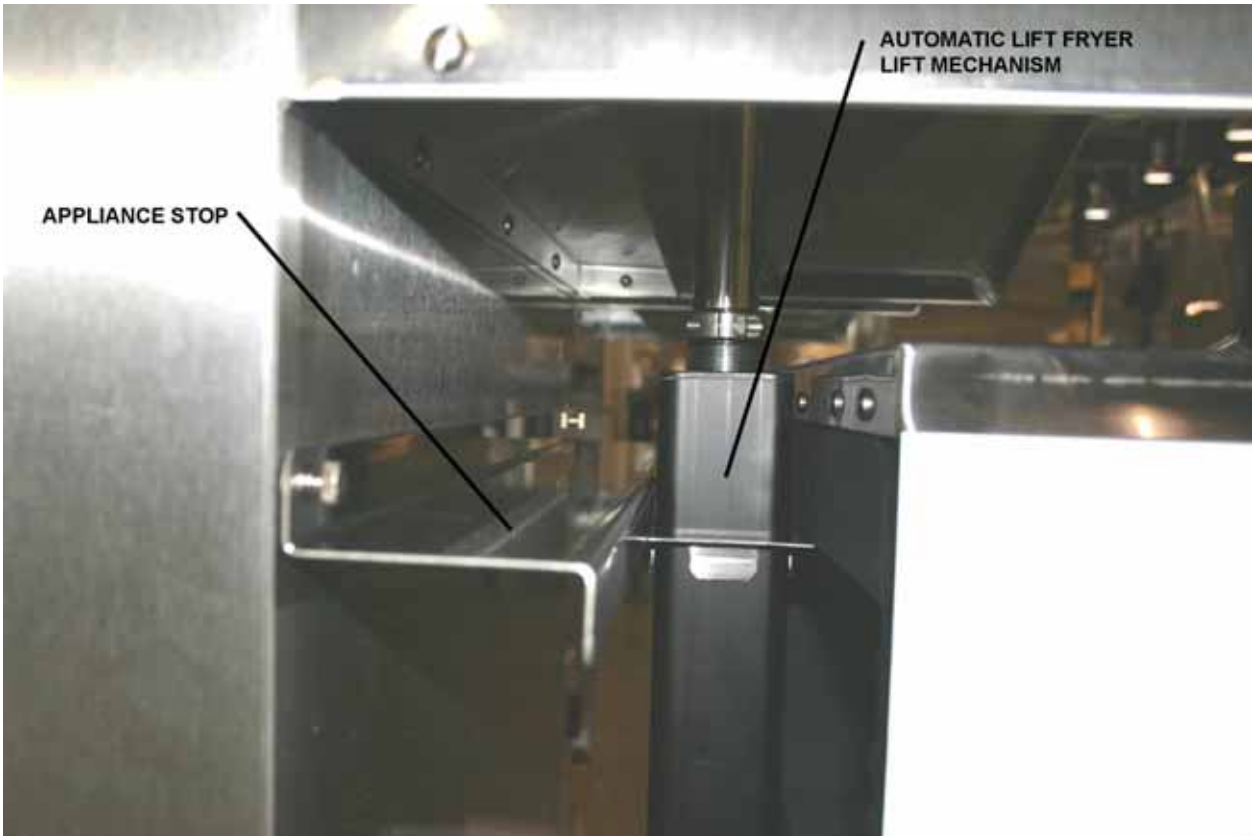
Particle/Odor Filter

1. Remove the filter from the plastic bag.
2. Open the filter door on the front of the unit by rotating the handle counter-clockwise.
3. Observing the “UP” arrows on the filter, with a hand at each front corner, carefully slide the filter into the unit.
4. Close and latch the door.

Appliance Stop FB37144203 (Used with BKI Automatic Lift Fryers)

⚠CAUTION The Appliance Stop must be installed if a BKI Automatic Lift Fryer with M0084 lift mechanism is to be connected to the hood. Failure to install this part could cause damage to the hood and/or fryer.

Install the Appliance Stop (FB37144203) on the hood as shown below if a BKI Automatic Lift Fryer with M0084 lift mechanism is to be connected to the hood.

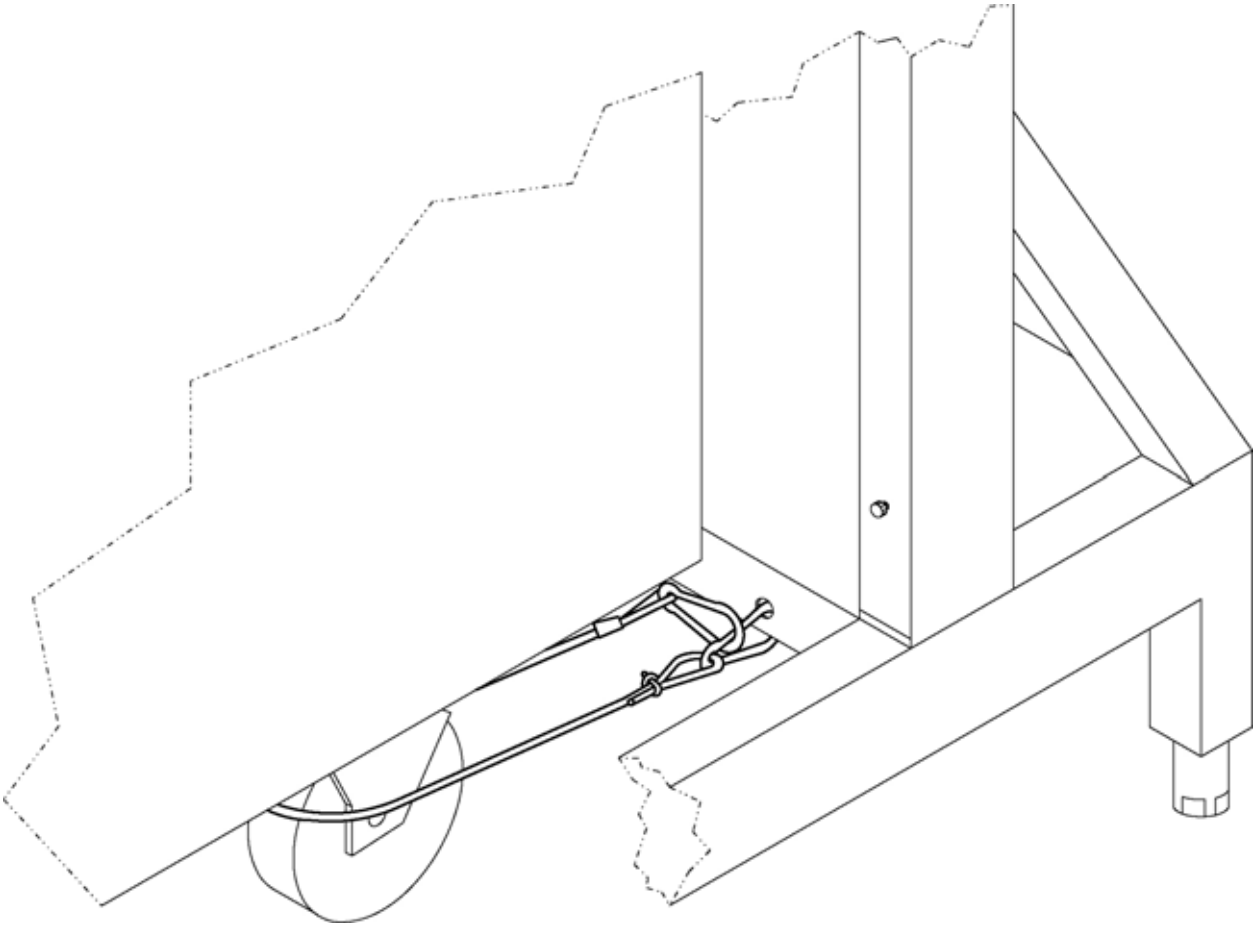


Appliance Restraining Device

Install appliance-restraining device as shown in the figure below.

WARNING In the event of an appliance fire, serious injury, property damage or death could occur if the appliance is not secured to the hood. A restraining device has been provided to assure that the cooking appliance remains in the proper position under the hood during normal operation. **DO NOT REMOVE THE RESTRAINING DEVICE!**

NOTICE Adjust restraining cable to allow no more than two inches (2”) of appliance movement. This adjustment must not allow the appliance to go beyond front edge of hood.



Fire Extinguishing System

⚠WARNING In the event of an appliance fire, serious injury, property damage or death could occur if any part of the appliance obstructs the spray nozzles. Ensure that lids and/or other parts of the appliance do not obstruct the spray pattern of either nozzle.

NOTICE The fire extinguishing system components used in this hood have been evaluated by U.L. in the course of their classification for use on this hood.

An authorized Range Guard® distributor must install and activate the filter hood fire extinguishing system. To locate an authorized Range Guard® Distributor use the following contact information:

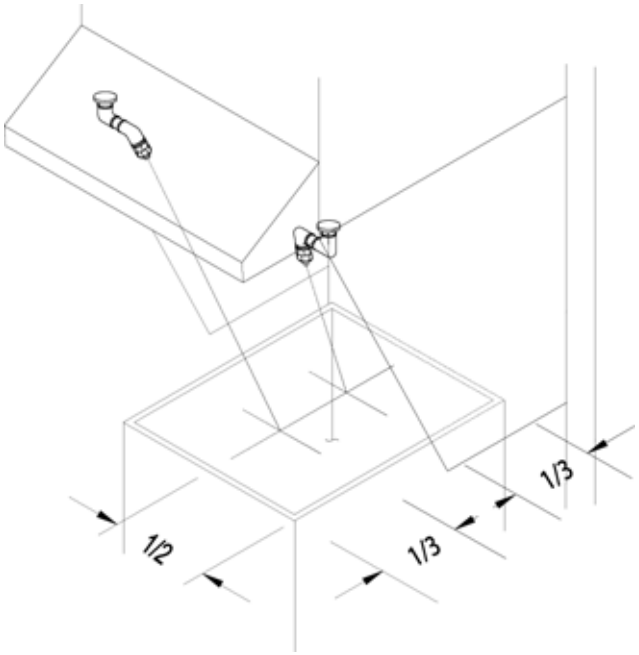
Ronald Woodward
Technical Service Specialist
Badger Fire Protection
4251 Seminole Trail
Charlottesville Va. 22911
Office: 800-446-3857 ext. 111
Fax: 434-974-4113
Mobile: 434-981-0505

1. After the hood has been properly secured to prevent movement, locate the end-of-line remote pull station (at a point of egress or exit) in a manner approved by the local authority and in accordance with applicable codes. To install the end-of-line remote, use ½" EMT and Range Guard® corner pulleys #97915.

2. Install two UL Listed; type "A", 165° F. fusible links (load rating 3-45 lbs.) in the two appliance detector positions (one in front of the grease baffle, one behind the grease baffle).

3. If required, connect the provided fire extinguishing system contacts for remote signaling (refer to the electrical diagram in this manual).

4. Adjust the position of the two ADP appliance nozzles as depicted below.



5. Reset control head. With control head NOT connected to cylinder, dry test system by activating the remote pull.

6. Install cylinder by placing bottom of cylinder over socket head screws at the bottom of cylinder bracket. Tighten pipe union located in the discharge line. Secure cylinder with adjustable clamping strap.

7. Reset control head and connect control to cylinder.

8. Recheck installation procedure to insure that nothing has been overlooked.

Wiring

⚠WARNING Electrocution, equipment failure or property damage could result if an unlicensed electrician performs the electrical installation. Ensure that a licensed electrician perform the electrical installation.

⚠WARNING In the event of an appliance fire, serious injury, property damage or death could occur if the appliance is powered from a source other than the hood. The cooking appliance used under this hood MUST receive its input power from the hood. In the event of a fire, the hood fire extinguishing system will automatically remove power from the connected appliance.

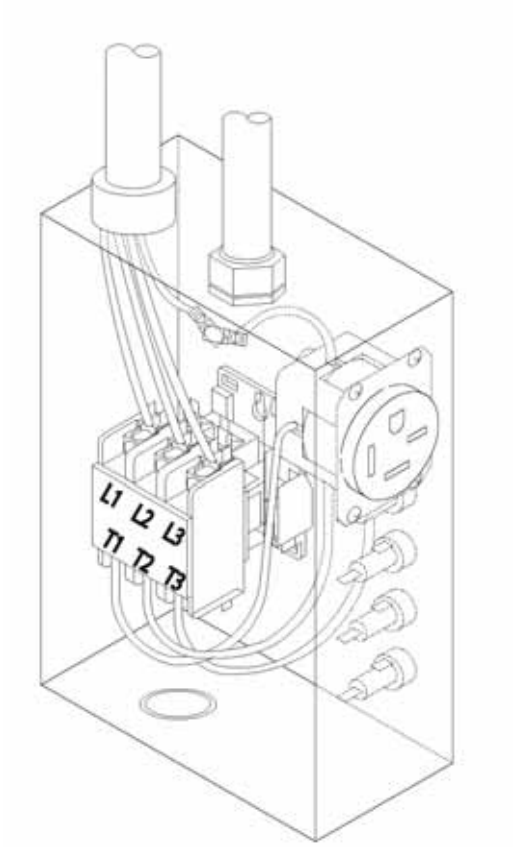
NOTICE The fire extinguishing system must be operative before the electrical system will function.

Refer to the electrical diagram included in attached to this unit or in the service manual.

Standard Electrical Connection

This connection is for UL listed appliances supplied with a cord and a NEMA style 15-60 right angle plug.

1. Remove fire extinguisher access panel.
2. Route incoming power lines through holes located in the top of the 12”x8”x4” electrical enclosure.
3. Connect ground to the lug provided inside the enclosure.
4. Perform the applicable step below:
    - For single-phase operation, connect incoming power to terminals L1 and L2 of the contactor.
    - For three-phase operation, connect incoming power to terminals L1, L2 and L3 of the contactor.
5. Replace electrical box cover and fire extinguisher access panel
6. Insert plug into receptacle located in the hood.
7. Install cover over plug.

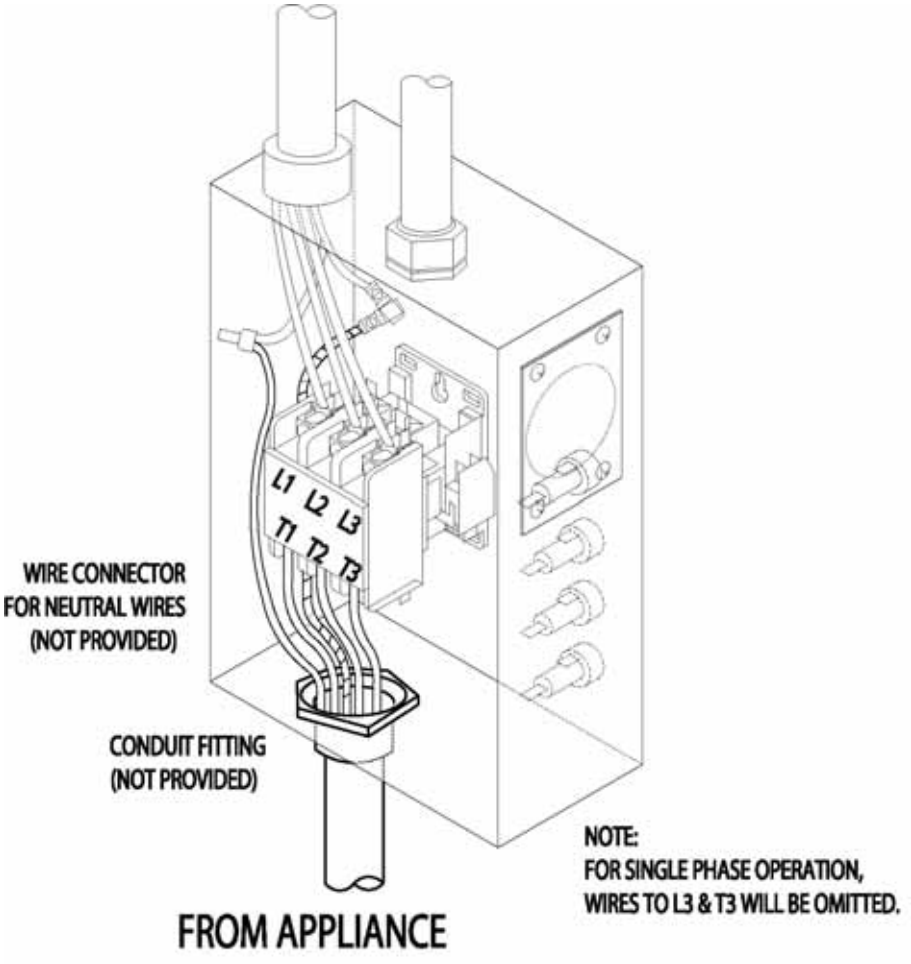


NORMAL CONFIGURATION WITH RECEPTACLE

Appliance Electrical Connection

This connection is for appliances requiring a UL listed flexible conduit connections (refer to figure below).

1. Remove receptacle and four wires (T1, T2, T3, and Ground).
2. Cover junction box hole with provided plate and hardware removed from receptacle.
3. Remove hole plug from hole in bottom of electrical enclosure and install conduit from appliance utilizing appropriate UL Listed fitting (not provided).
4. Wire appliance as shown in figure below and the electrical diagram in this manual.
5. Replace all panels and install cover over hole that was provided for the receptacle (now removed)



Maintenance

⚠WARNING Electrocution could occur if this unit is hosed down with water. This unit is NOT designed for hose wash-down cleaning! Refer to scheduled maintenance below for proper hood cleaning.

⚠WARNING Electrocution could occur if power is not removed from this unit before servicing. Remove power at disconnect or circuit breaker **BEFORE** servicing hood.

Scheduled Maintenance

Use the following table to help manage scheduled maintenance activities.

FREQUENCY	PERFORMED BY	PART	ACTIVITY
Daily	User	Entire Hood	Wipe unit down with a soft rag and mild cleaning agent.
	User	Condensation trough	Check condensation trough. Empty if necessary.
	User	Grease Baffle	Clean grease baffle. If necessary, refer to the procedure in this manual for cleaning the baffle.
Weekly	User	Particle/Odor Filter	Inspect particle/odor filter. In low to medium volume applications, the filter may need replacement prior to the indicating light turning on. This condition will be evident by a strong odor coming from the face of the filter. If necessary, refer to the procedure in this manual for replacing the filter.
Monthly	User	Door and Filter Interlock	Check door and filter interlock operation. The unit should not operate with the front door open or either the grease baffle or particle/odor filter removed. Clean area between grease baffle and particle/odor filter.

⚠WARNING Injury from rotating fan blades could occur if power is not removed from this unit before cleaning the blower section. Remove power at disconnect or circuit breaker **BEFORE** cleaning the blower section.

3 Months	User	Blower Section	Clean the blower section.
6 Months	Authorized Service agent	Fire Extinguishing System	Have the fire extinguishing system inspected.

Cleaning the Grease Baffle

1. Shut down the unit.
2. Locate the thumbscrews and retaining frame at the top of the grease baffle.
3. With one hand, hold the baffle to prevent it from dropping. With the other hand, loosen the thumbscrews and slide the retaining frame forward.
4. Slowly lower the top end of the baffle until it clears the retaining frame.
5. Spray the grease baffle with degreasing type soap.
6. Rinse with hot water; dry, and replace in hood.

Replacing the Particle/Odor Filter

1. Shut down the unit.
2. Open the filter door on the front of the unit by rotating the handle counter-clockwise.
3. Slide the used filter out of the unit.
4. Remove the replacement filter from the plastic bag.
5. Observing the “UP” arrows on the filter, with a hand at each front corner, carefully slide the filter into the unit.

NOTICE

When installing a new filter, slight resistance should be observed as the filter is being slid into place. This resistance is generated by four (4) filter springs located on the bottoms of the filter slides. These springs insure a proper seal at the top of the filter. After a period of time it may become necessary to adjust the pressure that these springs provide by lifting them slightly with your fingers.

6. Close and latch the door.

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